WO 2005/059636 PCT/IB2004/052534

9

CLAIMS:

5

- 1. A display device (100), comprising:
- a light emitting picture element (120) and
- a contrast enhancing element (110), comprising a substrate provided with a plurality of wave guides (216) including a first material of a first refractive index, adjacent said picture element (120), and interstitial regions (212) including a second material of a lower refractive index than the first refractive index, the interstitial regions (212) being arranged between the wave guides (216) and formed narrowing in the direction of the picture element,

an interface (214) between a wave guide (216) and an interstitial region (212) being provided with a reflective layer.

- 2. The display device of Claim 1, wherein the interstitial regions (212) have a tapered shape.
- 15 3. The display device of Claim 1, wherein an entrance plane (217) of the plurality of wave guides (216) is arranged for receiving light emitted from said element, a surface area of an exit plane (218) of said plurality of wave guides (216) being substantially smaller than a surface area of said entrance plane.
- 20 4. The display device of Claim 1, wherein said reflective layer is a metal layer.
 - 5. The display device of Claim 1, wherein the interstitial regions are substantially funnel-shaped.
- 25 6. The display device of Claim 1, wherein the top angle of an interstitial region(212) has a top angle (2α) of less than 90 degrees.
 - 7. The display device of Claim 6, wherein the top angle lies between 30 and 60 degrees.

WO 2005/059636 PCT/IB2004/052534

10

- 8. The display device of Claim 1, wherein a thickness of the wave guide substrate is between 100 nanometers and 10 micrometers.
- 5 9. The display device of Claim 1, wherein a cross-section length of an exit surface of a wave guide is in the order of magnitude of a wavelength of light in the visible range.
- 10. The display device of Claim 1, wherein the plurality of wave guides and/or the interstitial regions are arranged in a random structure.
 - 11. The display device of Claim 1, wherein the display device comprises one of a polymer light emitting display, organic light emitting display, transmissive liquid crystal display, cathode ray tube, plasma display or field emission display.